



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL

DIVISION OF AIR QUALITY
STATE STREET COMMONS
100 W. WATER STREET, SUITE 6A
DOVER, DELAWARE 19904

ENGINEERING &
COMPLIANCE

PHONE
(302) 739-9402

May 28, 2021

Croda Inc.
315 Cherry Lane
New Castle, DE 19720

ATTENTION: Chris Barnett
Site Director

**SUBJECT: "Draft/Proposed" Permit: APC-2016/0068-CONSTRUCTION (Amendment 4)
(NSPS) (MACT) (VOC RACT) (MNSR) (FE)**

Dear Mr. Barnett:

Attached you will find a copy of **"Draft/Proposed" Permit: APC-2016/0068-CONSTRUCTION (Amendment 4) (NSPS) (MACT) (VOC RACT) (MNSR) (FE)** for modifications to the hotwell and vent scrubber as per the permit application and Settlement Agreement, and corrections to the Ethanol Dehydration Furnace emission limits. This permit is being made federally enforceable so its terms and conditions can be transferred to your facility's Title V Operating Permit [**Permit: AQM-003/00058 (Renewal 3) (Revision 5)**] via the administrative permit amendment process. Please reference 7 DE Admin. Code 1102 Sections 11.2.10, 12.4 and 12.5 for the requirements of this process.

In order to make the terms and conditions of this **Permit: APC-2016/0068-CONSTRUCTION (Amendment 4) (NSPS) (MACT) (VOC RACT) (MNSR) (FE)** federally enforceable, notice has been sent to EPA and affected states, and a Public Notice will be published in the *Sunday News Journal* and *Delaware State News* on Sunday, May 30, 2021 to commence a thirty (30) day comment period. The public comment period will be no less than thirty (30) days in accordance with 7 **DE Admin Code** 1130.

Additionally, the Department has scheduled a Public Hearing regarding this matter for June 29, 2021 at 6:00 PM. Further details regarding the Public Hearing will be sent to you separately.

The public comment period ends Wednesday, June 28, 2021. Any comments should be brought to the Department's attention on or before Wednesday, June 28, 2021 and mailed to the following address:

State of Delaware - DNREC
Division of Air Quality
State Street Commons
100 W. Water Street, Suite 6A
Dover, DE 19904
ATTN: Division Director

Croda Inc.

"Draft/Proposed" Permit: APC-2016/0068-CONSTRUCTION (Amendment 4) (NSPS) (MACT)
(VOC RACT) (MNSR) (FE)

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The Department requests that you mail the original and one (1) copy if you submit comments.

The "Draft/Proposed" permit is being submitted to EPA for concurrent processing. Please note that the EPA can comment during the 30 day public notice period and can approve or deny the permit during the entire 45 day EPA review period.

If the Department receives significant comments on the "Draft/Proposed" permit either during the comment period or the public hearing, comments will be evaluated, responses will be prepared, and the permit will be revised as necessary. The permit will then be submitted to you and the EPA as "Proposed" as a standard consecutive forty-five (45) day review period.

Any questions concerning the attached "Draft/Proposed" permit may be directed to Eric Rowland at (302) 739-9402.

Sincerely,



Joanna L. French, P.E
Acting Program Administrator
Engineering & Compliance Section

JLF:ESR
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pc: Dover Title V File
 Joanna L. French, P.E.
 Eric S. Rowland

May 30, 2021

Permit: APC-2016/0068-CONSTRUCTION (Amendment 4) (NSPS) (MACT) (VOC RACT) (MNSR) (FE)

Croda, Inc.
Atlas Point
Ethylene Oxide Plant

315 Cherry Lane
New Castle, DE 19720

ATTENTION: Chris Barnett
Site Director

Dear Mr. Barnett:

Pursuant to 7 DE Admin. Code 1102 Section 2 and Section 11, approval by the Department of Natural Resources and Environmental Control is hereby granted for the removal of the hotwell emission point, further definition of the operation of the vent scrubber, and correction of the ethanol dehydration furnace emission limits for the 30,000 metric TPY ethylene oxide (EO) plant which includes the equipment listed in Attachment A, located at the Croda, Inc. Atlas Point facility in New Castle, Delaware, in accordance with the amendment request, dated December 30, 2020, signed by Gwendolyn Lawless, Lead SHE Advisor; the letter, dated April 9, 2021 signed by Gwendolyn Lawless, Lead SHE Advisor; and the email, dated May 13, 2021, from Gwendolyn Lawless, Lead SHE Advisor.

This permit is issued subject to the following conditions all of which are federally enforceable except Condition 6.1.2 and 2.10:

1. General Provisions

- 1.1 This permit expires on **(Issue date plus 3 years)**. If the equipment covered by this permit will not be constructed by **(Issue date plus 3 years)**, an application for renewal of this construction permit must be submitted by **(Issue date plus 3 years – 45 days)**. *[Reference 7 DE Admin. Code 1102 Section 11.10 dated 06/11/2006]*
- 1.2 The project shall be constructed in accordance with the information described above. If changes are necessary, revised plans must be submitted and a supplemental approval issued prior to actual construction. *[Reference 7 DE Admin. Code 1102 Section 11 dated 6/1/97]*
- 1.3 Upon presentation of identification, the Company shall authorize officials of the Department to:

- 1.3.1 Enter upon the Company's premises where a source is located or an emissions-related activity is conducted, or where records that must be kept under the terms and conditions of this permit are located. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.2.1 dated 12/11/00]
 - 1.3.2 Have access to and copy, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.2.2 dated 12/11/00]
 - 1.3.3 Inspect, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.2.3 dated 12/11/00]
 - 1.3.4 Sample or monitor, at reasonable times, any substance or parameter for the purposes of assuring compliance with this permit or any applicable requirement. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.2.4 dated 12/11/00]
- 1.4 This permit may not be transferred to another location or to another piece of equipment or process. [Reference 7 DE Admin. Code 1102 Section 7.1 dated 6/1/97]
- 1.5 This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include: [Reference 7 DE Admin. Code 1102 Section 7.1 dated 6/1/97 and 7 Del. C., Chapter 79]
 - 1.5.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
 - 1.5.2 An Applicant Background Information Questionnaire pursuant to 7 Del. C., Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.
- 1.6 The Company shall, upon completion of the construction, installation, or alteration of each emission unit, request in writing that the Department transfer the terms and conditions of this construction permit into the 7 DE Admin. Code 1130 operating permit. [Reference 7 DE Admin. Code 1102 Section 11.5 dated 6/1/97]
- 1.7 The request shall contain the following information, and shall contain the following language from the responsible official: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [Reference 7 DE Admin. Code 1102 Section 11.5.1 dated 6/1/97]
 - 1.7.1 A description of the compliance status, a complete schedule, and a certification of compliance for the equipment, facility, or air contaminant control device with respect to all applicable requirements, in accordance with 7 DE Admin. Code 1130 Section 5.4.8 and 5.4.9; and
 - 1.7.2 A statement of the methods used to determine compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods.
- 1.8 Upon satisfactory demonstration that the equipment, facility, or air contaminant control device complies with all applicable requirements and all terms and conditions of the

construction permit, and not prior to the expiration of the EPA review period provided for in 7 DE Admin. Code 1102, Section 12.5, the Department shall transfer the specified terms and conditions to the 7 DE Admin. Code 1130 permit via the administrative amendment process specified in 7 DE Admin. Code 1130. *[Reference 7 DE Admin. Code 1102 Section 11.5.2 dated 6/1/97]*

- 1.9 The provisions of 7 DE Admin. Code 1102 Sections 2.1, 11.3, and 11.5 shall not apply to the operation of equipment or processes for the purpose of initially demonstrating satisfactory performance to the Department following construction, installation, modification, or alteration of the equipment or processes. The Company shall notify the Department sufficiently in advance of the demonstration and shall obtain the Department's prior concurrence of the operating factors, time period, and other pertinent details relating to the demonstration. *[Reference 7 DE Admin. Code 1102 Section 11.12 dated 6/1/97]*
- 1.10 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 DE Admin. Code 1102, and, when applicable, 7 DE Admin. Code 1125, and receiving approval of such application from the Department; except as exempted in 7 DE Admin. Code 1102 Section 2.2. *[Reference 7 DE Admin. Code 1102 Section 2.1 dated 6/1/97]*

2. Emission Limitations

- 2.1 Air contaminant emission levels from the Ethanol Dehydration Furnace shall not exceed those specified in 7 DE Admin. Code 1102 and the following: **(These conditions will be transferred to Permit: AQM-003/00058-Renewal 3)** *[Reference 7 DE Admin. Code 1130 Section 6.1.1 dated 12/11/00]*
- 2.1.1 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 1.0 pounds per hour and 4.5 tons per twelve (12) month rolling period.
- 2.1.2 Nitrogen Oxides (NO_x) Emissions
NO_x emissions shall not exceed 0.74 pounds per hour and 3.2 tons per twelve (12) month rolling period.
- 2.1.3 Sulfur Dioxide (SO₂) Emissions
SO₂ emissions shall not exceed 0.0073 pounds per hour and 0.29 tons per twelve (12) month rolling period.
- 2.1.4 Volatile Organic Compound (VOC) Emissions
- 2.1.4.1 VOC emissions shall not exceed 1.3 pounds per hour and 5.7 tons per twelve (12) month rolling period.
- 2.1.4.2 TOC emissions (less methane and ethane) from the ethanol dehydration furnace (EDF) shall be reduced by 98 weight % or to 20 ppmv, on a dry basis corrected to 3% oxygen, whichever is less stringent. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** *[Reference 7 DE Admin. Code 1124 Section 48.3.1.1 dated 11/29/94, 40 CFR Part 60 Subpart NNN §60.662(a), and 40 CFR Part 60 Subpart RRR §60.702(a)]*

- 2.1.5 Particulate Matter (PM₁₀) Emissions
PM₁₀ emissions shall not exceed 0.093 pounds per hour and 0.41 tons per twelve (12) month rolling period.
- 2.1.6 Particulate Matter (PM) Emissions
The Company shall not cause or allow the emission of particulate matter in excess of 0.3 lb/MMBTU heat input, maximum two (2) hour average. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1104, Section 2.0 dated 2/1/81]
- 2.2 Air contaminant emission levels from the Catalytic Combustion Unit shall not exceed those specified in 7 DE Admin. Code 1102 and the following: **(These conditions will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.1 dated 12/11/00]
- 2.2.1 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 0.07 pounds per hour and 0.29 tons per twelve (12) month rolling period.
- 2.2.2 Nitrogen Oxides (NO_x) Emissions
NO_x emissions shall not exceed 0.08 pounds per hour and 0.35 tons per twelve (12) month rolling period.
- 2.2.3 Sulfur Oxide (SO_x) Emissions
SO_x emissions shall not exceed 0.002 tons per twelve (12) month rolling period.
- 2.2.4 Volatile Organic Compound (VOC) Emissions
VOC emissions shall not exceed 0.03 pounds per hour and 0.11 tons per twelve (12) month rolling period.
- 2.2.5 Particulate Matter (PM₁₀) Emissions
PM₁₀ emissions shall not exceed 0.01 pounds per hour and 0.026 tons per twelve (12) month rolling period.
- 2.3 Air contaminant emission levels from the EO Storage Tanks Scrubber shall not exceed those specified in 7 DE Admin. Code 1102 and the following: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.1 dated 12/11/00]
- 2.3.1 Volatile Organic Compound (VOC) Emissions
VOC emissions shall not exceed 0.024 tons/month and 0.29 tons per twelve (12) month rolling period.
- 2.4 Air contaminant emission levels from the Ethyl Chloride Chemical Addition Pot shall not exceed those specified in 7 DE Admin. Code 1102 and the following: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.1 dated 12/11/00]
- 2.4.1 Volatile Organic Compound (VOC) Emissions
VOC emissions shall not exceed 13.45 pounds per hour and 0.013 tons per twelve (12) month rolling period.
- 2.5 Each of the two (2) 350 HP fire pumps shall meet the applicable emissions standards set by the US EPA for non-road engines (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2007.) **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR

Part 60 §60.4204(b) dated 6/28/11, 40 CFR Part 60 §60.4201(a) dated 6/28/11, 40 CFR Part 60 §60.4211(c) dated 1/30/13]

- 2.6 The 464 HP emergency generator shall meet the applicable emissions standards set by the US EPA for non-road engines (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2007.) **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 3.1.2 dated 1/11/06, 40 CFR Part 60 §60.4205(b) dated 6/28/11]
- 2.7 At all times, the owner or operator shall operate and maintain the 235 HP fire pump, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution practices for minimizing emissions. Compliance will be based on information available to the Department which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 63 Subpart ZZZZ §63.6605(b) dated 1/30/13]
- 2.8 The owner or operator shall comply with the leak detection monitoring frequency and leak rate defined in Condition 4.10.
- 2.9 No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty percent (20%) opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1114 Section 2.1 dated 7/17/84]
- 2.10 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1119 Section 2.1 dated 2/1/81]

3. Operational Limitations

- 3.1 The vent stream to the EDF shall be introduced into the flame zone. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 48.3.1.1 dated 11/29/94, 40 CFR Part 60 Subpart NNN §60.662(a), and 40 CFR Part 60 Subpart RRR §60.702(a)]
- 3.2 The owner or operator that uses a process heater (EDF) to comply with Condition 2.1 shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.663(c) dated 10/17/00]
- 3.2.1 A temperature monitoring device in the fire box equipped with a continuous recorder and having an accuracy of $\pm 1\%$ of the temperature being measured, expressed in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater and degrees Fahrenheit or $\pm 0.9^{\circ}\text{F}$, whichever is greater. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.663(c)(2) dated 10/17/00]
- 3.2.2 A flow indicator that provides a record of vent stream flow to the EDF at least once every hour. The flow indicator shall be installed in the vent stream from each distillation unit within a point closest to the inlet of the EDF and before being joined with any other vent stream. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.663(c)(1) dated 10/17/00]

- 3.3 The owner or operator that uses a catalytic oxidizer to comply with Condition 2.2 shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.663(a) dated 10/17/00 and 40 CFR Part 60 Subpart RRR §60.703(a)]
- 3.3.1 A temperature monitoring device equipped with a continuous recorder and that has an accuracy of $\pm 1\%$ of the temperature being measured, expressed in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater, and degrees Fahrenheit or $\pm 0.9^{\circ}\text{F}$, whichever is greater, in the gas stream immediately before and after the catalyst bed. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 48.5.1 dated 11/29/94, 40 CFR Part 60 Subpart NNN §60.663(a)(1)(ii) dated 10/17/00, 40 CFR Part 60 Subpart RRR §60.703(a)(1)(ii)]
- 3.3.2 A flow indicator that provides a record of vent stream flow to the catalytic oxidizer at least once every hour. The flow indicator shall be installed in the vent stream of the catalytic oxidizer and before being joined with any other vent stream. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.663(a)(2) dated 10/17/00]
- 3.4 The 30,000 gallon ethylene oxide tanks' scrubber shall be designed and operated to reduce inlet VOC emissions by 99 percent or greater. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.112b(a)(3)(ii) dated 10/8/97]
- 3.5 Operate the closed vent system and scrubber for the ethylene oxide storage tanks and monitor the parameters of the closed vent system and scrubber in accordance with the operating plan submitted to the Department in accordance with Condition 7.4, unless the plan was modified by the Department during the review process. In this case, the modified plan applies. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.113b(c)(2) dated 8/11/89]
- 3.5.1 The closed vent system and scrubber parameters shall be set based on the last passing performance test. Parameters shall include, but are not limited to, scrubber water flow rate and vent gas flow rate.
- 3.5.2 The scrubber shall be in operation whenever any vent gas is present.
- 3.6 Diesel fuel or biodiesel blend for use in the 464 HP emergency generator and the two (2) 350 HP fire pumps shall have the per gallon diesel fuel standards of: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1108 Section 2.3.1 dated 7/11/13, 40 CFR 60 Subpart IIII, Section 60.4207(b) dated 4/1/13, 40 CFR 80.510(b) dated 2/19/15]
- 3.6.1 A sulfur content equal to or less than 0.0015% by weight.
- 3.6.2 A Cetane index or aromatic content, as follows:
- 3.6.2.1 A minimum Cetane index of 40; or
- 3.6.2.2 A maximum aromatic content of 35 volume percent.
- 3.7 The emergency generator may operate only during an emergency as defined below: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 2.0 dated 1/11/06]

- 3.7.1 An electrical power outage due to: a failure of the electrical grid; on-site disaster; local equipment failure; or public service emergencies such as flood, fire, natural disaster, or severe weather conditions (e.g. hurricane, tornado, blizzard, etc.); or
- 3.7.2 When there is a deviation of voltage or frequency from the electrical provider to the premises of 3% or greater above, or 5% or greater below, standard voltage or frequency.
- 3.8 The emergency generator shall not be operated for testing or maintenance purposes before 5 p.m. on any day which has a Ground Level Ozone Pollution Forecast or Particulate Forecast of "Code Purple," "Code Red," or "Code Orange" as announced by the Department. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 4.4 dated 1/11/06]
- The owner or operator may receive "Code Purple," "Code Red," or "Code Orange" announcements a day in advance by subscribing to the DNREC Ozone Alert List:
- <http://www.dnrec.delaware.gov/Pages/DNRECLists.aspx>
- 3.9 Despite Condition 3.8, the emergency generator may be tested on any day that such testing is required to meet National Fire Protection Association (NFPA) or Joint Commissions on Accreditation of Healthcare Organizations (JCAHO) Standards. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 4.5 dated 1/11/06]
- 3.10 The emergency generator shall not be operated in conjunction with a voluntary demand-reduction program or any other interruptible power supply arrangement with a utility, other market participant, or system operator (e.g. Delmarva Power, Delaware Electric Cooperative, PJM, etc.). **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 2.0 dated 1/11/06]
- 3.11 The emergency generator shall be equipped with a properly functioning non-resettable hour metering device. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 6.1.2 dated 1/11/06]
- 3.12 The emergency generator shall be serviced annually by a manufacturer's representative or by personnel trained to perform maintenance according to the manufacturer's recommendations. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.1 dated 12/11/00]
- 3.13 The owner or operator shall operate the emergency generator in conformance with the generator manufacturer's instructions, such as following maintenance and operating requirements to help minimize emissions. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 3.1.1 dated 1/11/06]
- 3.14 The owner or operator shall operate and maintain the emergency generator and 350 HP fire pumps according to the manufacturer's emission-related written instructions. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart IIII §60.4211(a)(1) dated 1/30/13]
- 3.15 The owner or operator shall change only those emission-related settings that are permitted by the manufacturer. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart IIII §60.4211(a)(2) dated 1/30/13]

- 3.16 No owner or operator shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart IIII §60.4218, Table 8 §60.12]
- 3.17 Reserved.
- 3.18 The 235 HP fire pump shall meet the following requirements except during periods of startup: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR 63 Subpart ZZZZ, §63.6603(a) dated 1/30/13]
- 3.18.1 Change oil and filter every 500 hours of operation or annually, whichever comes first;
- 3.18.2 Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
- 3.18.3 Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
- 3.19 The 235 HP fire pump shall be equipped with a properly functioning non-resettable hour metering device. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 63 Subpart ZZZZ §63.6625(f) dated 1/30/13]
- 3.20 The owner or operator of the 235 HP fire pump shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 63 Subpart ZZZZ §63.6625(h) dated 1/30/13]
- 3.21 The 235 HP fire pump operation shall not exceed 100 hours per calendar year for maintenance checks and readiness testing. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 63 Subpart ZZZZ §63.6640(f)(2) dated 1/30/13]
- 3.22 Continuous compliance with the emissions and operating limitations and work or management practices for the 235 HP fire pump shall be demonstrated by: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 63 Subpart ZZZZ §63.6640(a) Table 6 dated 1/30/13]
- 3.22.1 Operating and maintaining the fire pump according to manufacturer's emission-related operation and maintenance instructions; or
- 3.22.2 Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
- 3.23 Prior to July 1, 2016, the owner or operator shall not use fuel having a sulfur content greater than 1.0% by weight in the 235 HP fire pump. On and after July 1, 2016, the fuel sulfur content shall not exceed 15 ppm by weight. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1108 Section 2.1 and 2.3 dated 7/11/13]

- 3.24 Reserved.
- 3.25 The two (2) 50,000 gallon ethanol storage tanks shall be equipped with a closed vent system and condenser designed to reduce inlet VOC emissions by 95% or greater. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.112b(a)(3)(ii) dated 10/8/97 and 7 DE Admin. Code 1124 Section 49.3.1.3.3 dated 11/29/94]
- 3.26 The ethanol and ethylene oxide storage tanks' closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessels and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by Condition 4.17. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.112b(a)(3)(i) dated 10/8/97]
- 3.27 The owner or operator shall operate the closed vent system and condenser and monitor the parameter(s) of the closed vent system and condenser in accordance with the operating plan submitted to the Department. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.113b(c)(2) dated 8/11/89]
- 3.28 The 50,000 gallon ethanol tanks' condenser shall be designed to reduce inlet VOC emissions by 95 percent or greater, and operated such that the outlet glycol temperature shall not exceed -14.4°C (6°F). **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.112b(a)(3)(ii) dated 10/8/97]
- 3.29 No owner or operator shall use open containers for the storage or disposal of cloth or paper impregnated with VOCs. Containers for the storage or disposal of cloth or paper impregnated with VOCs shall be kept closed except when adding or removing material. **(This condition was modified from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 8.4.3 dated 3/11/11]
- 3.30 No owner or operator shall store in open containers spent or fresh VOC or VOC containing material. Containers for the storage of spent or fresh VOCs or VOC containing material shall be kept closed, except when adding or removing material. **(This condition was modified from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 8.4.4 dated 3/11/11]
- 3.31 The owner or operator shall convey VOC-containing cleaning materials from one location to another in closed containers or pipes. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 8.4.6.1 dated 3/11/11]
- 3.32 The owner or operator shall handle and transfer all fresh and spent cleaning solvent and other VOC-containing material to or from any container, tank, vat, vessel, mixing vessel, or piping system, etc. in such a manner that minimizes spills and other losses. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 8.4.6.2 dated 3/11/11]
- 3.33 The owner or operator shall clean up spills of fresh and spent cleaning solvent and other VOC-containing material immediately. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 8.4.6.3 dated 3/11/11]
- 3.34 The owner or operator shall maintain an accurate list of identification numbers for equipment included in 40 CFR Part 60 Subpart VVa. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(e)(1)]
- 3.35 Equipment that is in vacuum service is excluded from the requirements of 40 CFR Part 60 Subpart VVa §§60.482-2a through 60.482-10a if it is identified as required in Condition

3.37. (This condition will be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa §60.482-1a(d) dated 11/16/07]

- 3.36 Equipment that an owner or operator designates as being in VOC service less than 300 hr/yr is excluded from the requirements of §§60.482-2a through 60.482-11a if it is identified as required in Condition 3.37 and it meets any of the conditions below: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.482-1a(e) dated 11/16/07]

3.36.1 The equipment is in VOC service only during process malfunctions or other emergencies.

3.36.2 The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.

- 3.37 For all equipment exempt from 40 CFR Part 60 Subpart VVa, the owner or operator shall document the reason for the exemption and any other information required by 40 CFR Part 60 Subpart VVa. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(e)(5) and (6)]

- 3.38 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determinations of whether acceptable operating procedures are being used will be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/1/97]

- 3.39 All structural and mechanical components of the equipment covered by this permit and in use shall be maintained in proper operating condition. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/1/97]

4. Testing and Monitoring Requirements

- 4.1 Within sixty (60) days of start-up, but no later than 180 days afterwards, the owner or operator shall conduct initial performance test(s) according to Condition 4.5 and furnish the Department with a written report of the results in accordance with Section 4.4. [Reference 7 DE Admin. Code 1130 Section 6.1.3.1.2 dated 12/11/00]
- 4.2 Within 60 days of achieving the maximum production rate at which the facility will operate this process, but no later than 180 days afterwards, the owner or operator shall conduct performance tests according to Condition 4.5 and furnish the Department with a written report of the results in accordance with Section 4.4. [Reference 7 DE Admin. Code 1130 Section 6.1.3.1.2 dated 12/11/00]
- 4.3 In addition, upon written request of the Department, the owner or operator shall, at the Company's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records and submit reports to the Department on the result of such sampling. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]

- 4.4 The owner or operator shall conduct performance tests as required by Condition 4.5 and furnish the Department with a written report of the results of such performance test(s) in accordance with the following general provisions:

4.4.1 One (1) original and one (1) copy of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the address in Condition 4.4.3. The tests shall be conducted in accordance with the State of Delaware and Federal Requirements. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]

4.4.2 The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule the compliance demonstration with the Source Testing Engineer. The Department must observe the test for the results to be considered for acceptance. [Reference 7 DE Admin. Code 1102 Section 11.7 dated 6/1/97]

4.4.3 The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original and one (1) copy of the test report shall be submitted to the addresses below: [Reference 7 DE Admin. Code 1124 Appendix A dated 11/29/94]

Original to:

Engineering & Compliance Branch
Attn: Permitting Engineer
Division of Air Quality
State Street Commons
100 W. Water Street, Suite 6A
Dover, DE 19904

One (1) Copy to:

Engineering & Compliance Branch
Attn: Source Testing Engineer
715 Grantham Lane
New Castle, DE 19720

- 4.4.4 The final report of the results must meet the following requirements to be considered valid:

4.4.4.1 The full report shall include the emissions test report (including raw data from the test) as well as a summary of the results and statement of compliance or non-compliance with permit conditions; [Reference 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]

4.4.4.2 Summary of Results and Statement of Compliance or Non-Compliance
The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information:

4.4.4.2.1 A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings.
[Reference 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]

4.4.4.2.2 Permit number(s) and condition(s) which are the basis for the compliance evaluation. [Reference 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]

4.4.4.2.3 Summary of results with respect to each permit condition.
[Reference 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]

4.4.4.2.4 Statement of compliance or non-compliance with each permit condition. [Reference 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]

4.4.4.3 The Test Report shall be certified by a Responsible Official as to truth, accuracy, and completeness as required by Condition 6.7 of this permit. [Reference 7 DE Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 12/11/00]

4.4.5 The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action. [Reference 7 DE Admin. Code 1102 Section 11.3 dated 6/11/06]

4.5 Compliance with Conditions 2.1.1 (CO), 2.1.2 (NO_x), 2.1.4.1 (VOC), 2.1.4.2 (TOC), 2.1.5 (PM₁₀), 2.2.1 (CO), 2.2.2 (NO_x), 2.2.4 (VOC), and 2.2.5 (PM₁₀) shall be demonstrated by an initial stack test then subsequently once every 5 years thereafter. An initial performance test on the hotwell vent in accordance with 7 DE Admin. Code 1124, Section 48.4.9 shall be performed to demonstrate VOC emissions are less than 500 ppmv. Subsequent testing shall be conducted if a process change as described in Condition 4.6 is made. Testing shall be conducted while the unit is operated under the condition/conditions defined in a Department approved test protocol. [Reference 7 DE Admin. Code 1130 Section 6.1.3.1.2 dated 12/11/00]

4.6 To comply with Condition 2.1, the owner or operator shall recalculate the flow rate and TOC concentration for the ethanol dehydration furnace whenever process changes are made. Examples of process changes include changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The flow rate and VOC concentration shall be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 48.4.7 dated 11/29/94]

4.7 The owner or operator shall conduct an initial performance test on the EDF and the catalytic oxidizer to demonstrate compliance with Conditions 2.1 and 2.2. Test methods and procedures from 40 CFR Part 60 Subpart NNN §60.664(a) and (b) shall be used. Data as specified in 40 CFR Part 60 Subpart NNN §60.665(b) shall be recorded during the performance tests. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.664(a) and (b) dated 10/17/00, 40 CFR Part 60 Subpart NNN §60.665(b) dated 2/27/14, and 40 CFR Part 60 Subpart RRR §60.704(a) and (b) dated 10/17/00]

4.8 Compliance with Conditions 2.1.3 and 2.2.3 (SO₂) shall be based on fuel usage records and fuel supplier certifications. [Reference 7 DE Admin. Code 1130 Section 6.1.3.1.2 dated 12/11/00]

4.9 Compliance with Conditions 2.3 and 2.4 shall be based on process parameters, throughput, and engineering calculations. [Reference 7 DE Admin. Code 1130 Section 6.1.3.1.2 dated 12/11/00]

4.10 Sulfur concentrations of distillate fuels shall be determined by the following method: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1108, Section 4.2 dated 7/11/13]

4.10.1 The standard ASTM method D2622-10 "Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry," or

- 4.10.2 Any alternative method specified in Title 40, CFR Part 80, Section 580 (July 2012 edition), or
- 4.10.3 Any alternative method approved by the Department and EPA.
- 4.11 If the emergency generator is not certified by the manufacturer to meet the applicable emissions standards set by the US EPA for non-road engines (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2007), the owner or operator shall demonstrate compliance with 7 **DE Admin. Code 1144** through testing using the applicable EPA Reference Methods, California Air Resources Board methods, or equivalent test methods approved in advance by the Department. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 7.5.1 dated 1/11/06]
- 4.12 The owner or operator shall perform the following visible emission testing: . **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.1.2 dated 12/11/00]
- 4.12.1 Once a quarter the emergency generator shall be observed for the presence or absence of visible emissions for at least five minutes while the equipment is operating. The five minute observation window must start as soon as generator power is stabilized. Compliance with this condition shall be demonstrated by the maintenance of a bound log of visible emissions. If visible emissions are observed during the five minute observation period, the owner or operator shall take actions per the manufacturer's recommendations to correct the problem as soon as possible. After corrective actions are taken, the owner or operator shall observe visible emissions while the equipment is next operated or tested. If visible emissions still persist, these steps (observe, correct, document) shall be repeated until visible emissions are not observed.
- 4.12.2 The procedure outlined in Condition 4.12.1 does not require that the opacity of the emissions be determined. Since the procedure requires only the determination of whether visible emissions occur and does not require the determination of opacity levels, observer certification according to the procedures of EPA Reference Method 9 (40 CFR 60, Appendix A) is not required. However, it is necessary that the observer is educated on the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor).
- 4.13 The owner or operator shall monitor the following information:
- 4.13.1 The date, time, duration, and reason for each emergency generator startup; and **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144, Section 6.1.3 dated 1/11/06]
- 4.13.2 The monthly fuel usage. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144, Section 6.1.1 dated 1/11/06]
- 4.14 Reserved.
- 4.15 Reserved.
- 4.16 Reserved.

- 4.17 Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa, §60.485(a) dated 11/16/07]
- 4.18 Leak detection monitoring shall be performed in accordance with the following frequencies:

Equipment	Frequency	Leak rate
Pumps in LL service	Monthly Method 21	2,000 ppm
	Weekly visual, Monitor by Method 21 w/in 5 days of leak. (This condition will be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa, §60.482-2a(a) and (b)]	
Pump in HL service	Monitor by Method 21 w/in 5 days of any possible visual, audible, or olfactory leak. (This condition will be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa, §60.482-8a(a) and (b)]	10,000 ppm
Pressure Relief Devices in gas/ vapor service	Monitor by Method 21 within 5 days after each release if no upstream rupture disk; if an upstream rupture disk is installed, replace the disk within 5 calendar days after a release. (This condition will be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa, §60.482-4a(a), (b), and (d)]	500 ppm
Valves in gas/vapor or LL service	Monthly Method 21	500 ppm
	Reduction in frequency is possible for sufficiently low leak rate – see 40 CFR 60.482-7a(c) (This condition will be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa, §60.482-7a(a), (b), and (c)]	
Valves in HL service	Monitor by Method 21 w/in 5 days of any possible audible, visual, or olfactory leak. (This condition will be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa, §60.482-8a(a) and (b)]	10,000 ppm
Connectors in gas/vapor or LL service	Monitor by Method 21 w/in 12 months of initial startup. Follow-up monitoring conducted as follows, based on the leak rate on initial monitoring: <ul style="list-style-type: none"> Leak rate in process unit $\geq 0.5\%$, within 1 year Leak rate in process unit ≥ 0.25 but $< 0.5\%$, within 4 years Leak rate $< 0.25\%$, 50% of connectors within 4 years If leak rate $\geq 0.35\%$, monitor all remaining within 6 months If leak rate $< 0.35\%$, monitor all remaining within next 4 years (8 years from initial) (This condition will be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa, §60.482-11a(a) and (b) dated 6/2/08]	500 ppm
Connectors in HL service	Monitor by Method 21 w/in 5 days of any possible audible, visual, or olfactory leak. (This condition will	10,000 ppm

Equipment	Frequency	Leak rate
	be transferred to Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart VVa, §60.482-8a(a) and (b)]	

5. **Record Keeping Requirements**

- 5.1 The Company shall maintain, at a minimum, all of the information required by this permit for a minimum of five (5) years from such information's date of record. **(This condition was modified from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/00]
- 5.2 Records of all test data shall be maintained. This data includes, but may not be limited to:
- 5.2.1 The date, place and time of sampling measurements;
- 5.2.2 The date(s) analyses were performed;
- 5.2.3 The Company or entity that performed the analyses;
- 5.2.4 The analytical techniques or methods used;
- 5.2.5 The results of such analyses; and
- 5.2.6 The operating conditions existing at the time of sampling or measurement.
- [Reference 7 DE Admin. Code 1130 Section 6.1.3.2 dated 12/11/00]
- 5.3 The following information shall be maintained in a file:
- 5.3.1 A statement of compliance showing calculations for EDF particulate emissions to not exceed 0.3 lb/MMBTU, on a 2-hour average basis. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1104 Section 2.0 dated 2/1/81]
- 5.3.2 The percent reduction of TOC achieved by the EDF, determined as specified in Appendix E of 7 DE Admin. Code 1124. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Sections 48.6.1.1.2 and 48.4.4 dated 11/29/94]
- 5.3.3 Each owner or operator shall keep up-to-date, readily accessible, continuous records of the equipment operating parameters specified to be monitored under Conditions 3.2 and 3.3, as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. Flow indication includes records of all periods when the vent stream is diverted from the control device or has no flow rate. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.665(c) and (d) dated 2/27/14, 40 CFR Part 60 Subpart RRR §60.705(c) dated 12/14/00]
- 5.3.4 The schematic diagram of the affected vent streams, collection system(s), fuel systems, control devices, and bypass systems as specified in Condition 6.4.4 shall be retained for the life of the system. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart RRR §60.705(s) dated 12/14/00]

- 5.3.5 The average temperature upstream and downstream of the catalyst bed, measured at least every 15 minutes and averaged over the same time period of the performance testing. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 48.6.1.1.1 dated 11/29/94]
- 5.3.6 Records of the dimensions of the storage vessels greater than 5,000 gallons but less than 40,000 gallons, and an analysis showing the capacity of these storage vessels. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 49.5.2 dated 11/29/94]
- 5.3.7 Records of the dimensions of the two (2) 50,000 gallon ethanol storage tanks and two (2) 30,000 gallon ethylene oxide tanks, and an analysis showing the capacity of these storage vessels. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.116b(b) dated 10/15/03]
- 5.3.8 The owner or operator with a reactor process or distillation operation subject to the provisions of 7 DE Admin. Code 1124 Section 48.0 shall submit an initial compliance certification within 30 days of start-up that includes the following: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 48.6.5 dated 11/29/94, 7 DE Admin. Code 1124 Section 5.1.1 dated 1/11/93]
- 5.3.8.1 The name and location of the facility.
- 5.3.8.2 The address and telephone number of the person responsible for the facility.
- 5.3.8.3 Identification of subject sources.
- 5.3.9 For each subject source, the initial compliance certification shall also provide at a minimum: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1124 Section 48.6.5 dated 11/29/94, 7 DE Admin. Code 1124 Section 5.1.2 dated 1/11/93]
- 5.3.9.1 The applicable emission limitation, equipment specification, or work practice.
- 5.3.9.2 The method of compliance.
- 5.3.9.3 For each source subject to numerical emission limitations of this regulation, the estimated emissions without control.
- 5.3.9.4 The control system or systems in use.
- 5.3.9.5 The design performance efficiency of the control system.
- 5.3.9.6 For each source subject to numerical emission limitations of this regulation, the estimated emissions after control.
- 5.3.9.7 Certification that each subject source at the facility is in compliance with the applicable emission limitation, equipment specification, or work practice.
- 5.3.9.8 The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day."

- 5.3.10 Documentation of compliance with 7 DE Admin. Code 1125 Section 4.3, *Minor New Source Review*, by BACT analysis. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1125 Section 4.3 dated 8/11/05]
- 5.3.11 The owner or operator shall submit and maintain a record of proper initial notification as required by 7 DE Admin. Code 1144. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 1.4 dated 1/11/06]
- 5.3.12 The owner or operator shall maintain a copy of the emergency generator's manufacturer's maintenance and operating recommendations at the facility. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144, Section 7.3.3 dated 1/11/06]
- 5.3.13 The owner or operator shall maintain a copy of the emergency generator's manufacturer's certification that the engine has been certified to meet the currently applicable US EPA non-road emissions standards (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2007). If such certification is not available, the owner or operator shall maintain records of any testing conducted pursuant to Condition 4.11. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.2 dated 12/11/00]
- 5.3.14 The owner or operator shall maintain a copy of the emergency generator's annual maintenance service at the facility. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.2 dated 12/11/00]
- 5.3.15 The following records shall be kept for the 235 HP fire pump: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 63 Subpart ZZZZ §63.6655(a), (d), and (e) dated 1/30/13]
- 5.3.15.1 Occurrence and duration of each malfunction of operation.
- 5.3.15.2 Required maintenance performed on the air pollution control and monitoring equipment.
- 5.3.15.3 Actions taken during periods of malfunction to minimize emissions in accordance with Condition 2.7, including corrective actions to restore malfunctioning process to its normal or usual manner of operation.
- 5.3.15.4 Records to show continuous compliance with the work or management practices by following Condition 3.22.
- 5.3.15.5 Maintenance conducted on the fire pump in order to demonstrate that the fire pump was operated and maintained according to your own maintenance plan.
- 5.3.16 Reserved.
- 5.3.17 Reserved.
- 5.3.18 For the ethanol storage tanks: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart Kb §60.115b(c)(1) and (2)]
- 5.3.18.1 A copy of the operating plan.

- 5.3.18.2 A record of the measured values of the parameters monitored in accordance with Condition 3.27.
- 5.3.19 The owner or operator shall record the information specified in Conditions 5.3.19.1 through 5.3.19.5 for each monitoring event required by 40 CFR Part 60 Subpart VVa §§60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(a)(3)]
- 5.3.19.1 Monitoring instrument identification.
- 5.3.19.2 Operator identification.
- 5.3.19.3 Equipment identification.
- 5.3.19.4 Date of monitoring.
- 5.3.19.5 Instrument reading.
- 5.3.20 When leaks are detected, the requirements in 40 CFR Part 60 Subpart VVa §§60.486a(b) and (c) apply. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(b) and (c)]
- 5.3.21 The information in 40 CFR Part 60 Subpart VVa §60.486a(d) pertaining to the design requirements for closed vent systems and control devices described in §60.482-10a shall be recorded and kept in a readily accessible location. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(d)]
- 5.3.22 The information in 40 CFR Part 60 Subpart VVa §60.486a(e) pertaining to all equipment subject to the requirements in §§60.482-1a to 60.482-11a shall be recorded in a log that is kept in a readily accessible location. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(e)]
- 5.3.23 The information in 40 CFR Part 60 Subpart VVa §60.486a(f) pertaining to all valves subject to the requirements of §60.482-7a(g) and (h), all pumps subject to the requirements of §60.482-2a(g), and all connectors subject to the requirements of §60.482-11a(e) shall be recorded in a log that is kept in a readily accessible location. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(f)]
- 5.3.24 The information in 40 CFR Part 60 Subpart VVa §60.486a(g) shall be recorded for valves complying with §60.483-2a. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(g)]
- 5.3.25 The information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(j)]
- 5.3.26 Design criterion that indicates failure of each pump's dual mechanical seal system or barrier fluid system and each compressor's seal system or barrier fluid system. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.486a(h)(1)]

- 5.4 The following information shall be recorded and maintained in a log as follows:
- 5.4.1 The date, time, duration, and reason for each start-up of the emergency generator. The log shall include the dates and descriptions of inspections, testing, operator training, and maintenance performed; **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 5.2.1 dated 1/11/06]
 - 5.4.2 The total hours of operation for each month and the cumulative 12 month rolling period shall be calculated and recorded within 15 days of the end of each calendar month; **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144, Section 6.1.2 dated 1/11/06]
 - 5.4.3 The total hours during which testing or maintenance occurred shall be calculated for each month and the cumulative 12 month rolling period and recorded within 15 days of the end of each calendar month. A brief description of each testing or maintenance performed shall be included; **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 6.1.3 dated 1/11/06]
 - 5.4.4 The total fuel usage for each month and the cumulative 12 month rolling period shall be calculated and recorded within 15 days of the end of each calendar month; **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144 Section 6.1.1 dated 1/11/06]
 - 5.4.5 Visible emission records in accordance with Condition 4.12. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.2 dated 12/11/00]
- 5.5 The Company shall obtain distillate fuel oil supplier certification for each fuel oil shipment received at the facility. Such certification shall indicate: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1108, Section 5.1 dated 7/11/13, 7 DE Admin. Code 1144 Section 6.1.4 dated 1/11/06]
- 5.5.1 The name, address and telephone number of the fuel supplier.
 - 5.5.2 The name, address and telephone number of the Company, and the address where the fuel oil is delivered.
 - 5.5.3 The volume of fuel being delivered, and the date of sale or delivery.
 - 5.5.4 The type of fuel, and the sulfur content of the fuel as a delivered product, expressed as one of the following:
 - 5.5.4.1 The actual sulfur content in ppm or percent (%) by weight, or
 - 5.5.4.2 A statement that certifies the sulfur content of the shipment is equal to or below the limit in Condition 3.6.
- 5.6 As an alternative to Condition 5.5, the Company shall have the fuel in the generator's fuel tank certified by a third party laboratory, after each shipment of liquid fuel. The certification shall identify: **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1144, Section 6.1.5 dated 1/11/06]
- 5.6.1 The type of fuel delivered; and

5.6.2 The percentage of sulfur in the fuel by weight dry basis, and the method used to determine the sulfur content.

6. **Reporting Requirements**

- 6.1 Emission in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department:
- 6.1.1 Immediately upon discovery and after activating the appropriate site emergency plan to the Department's 24-hour complaint line (1-800-662-8802) any deviation that poses an imminent and substantial danger to public health, safety, or the environment. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.2 dated 12/11/00]
- 6.1.2 Immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802. (State Enforceable Only) **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.3 dated 12/11/00]
- 6.2 Discharges to the atmosphere in excess of any quantity specified 7 DE Admin. Code 1203 **"Reporting of a Discharge of a Pollutant or an Air Contaminant"** shall be reported, immediately upon discovery and after activating the appropriate site emergency plan, either in person or to the Department's 24-hour complaint line (1-800-662-8802). Discharges in compliance with this permit and excess emissions previously reported under Condition 6.1 of this permit are exempt from this reporting requirement. **(This condition was modified from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.5 dated 12/11/00 and 7 Del. C. Chapter 60, Section 6028]
- 6.3 In addition to complying with Conditions 6.1 and 6.2 of this permit, any reporting required by 7 DE Admin. Code 1203 **"Reporting of a Discharge of a Pollutant or an Air Contaminant"** and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:
- 6.3.1 The name and location of the facility;
- 6.3.2 The subject source(s) that caused the excess emissions;
- 6.3.3 The time and date of first observation of the excess emissions;
- 6.3.4 The cause and expected duration of the excess emissions;
- 6.3.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
- 6.3.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions. **(This condition was modified from and will be transferred to Permit: AQM-003/00058-Renewal 3)**

[Reference 7 DE Admin. Code 1112 Section 7.3 paragraphs 1, 2, 3, 4, 5 and 6 dated 11/24/93]

- 6.4 The Company shall submit semi-annual reports of the following recorded information to show compliance with Conditions 2.1, 2.2, and 3.5. The initial report shall be submitted within 6 months after the initial start-up date. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.665(l) dated 2/27/14 and 40 CFR Part 60 Subpart RRR §60.705(l) dated 12/14/00]
- 6.4.1 Exceedances of monitored parameters recorded under Condition 5.3.3.
- 6.4.2 All periods recorded under Condition 5.9.16 when the vent stream is diverted from the catalytic oxidizer or ethanol dehydration furnace or has no flow rate.
- 6.4.3 Any recalculation of the TRE index value, as recorded under Condition 5.3.17.
- 6.4.4 The owner or operator who seeks to demonstrate compliance with Conditions 2.1 and 2.2 using a control device shall maintain on file a schematic diagram of the affected vent streams collection systems(s), fuel systems, control devices, and bypass systems of part of the initial report. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)**
[Reference 40 CFR Part 60 Subpart RRR §60.705(s) dated 12/14/00]
- 6.5 The Company shall submit a notification of the date construction of the affected facility is commenced postmarked no later than 30 days after such date. The ethanol storage tanks operating plan as described below shall be attached to the notification for approval. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 §60.7(a)(1) dated 2/12/99, 40 CFR Part 60 Subpart Kb §60.113b(c)(1)(i) and (ii) dated 8/11/89]
- 6.5.1 Documentation demonstrating that the condenser will achieve 95% control efficiency during maximum loading conditions, including a description of all vapors, gases, and liquids received by the closed vent capture system and condenser, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specification for the condenser.
- 6.5.2 A description of the parameter(s) to be monitored to ensure that the condenser will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter(s).
- 6.6 The Company shall submit semiannual reports with the information shown in 40 CFR Part 60 Subpart VVa §§60.487a(b) and (c). The initial report shall be submitted within 6 months after the initial start-up date. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart VVa §60.487a(b) and (c)]
- 6.7 Each document submitted to the Department/EPA pursuant to this permit shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 12/11/00]
- 6.8 Each document submitted to the Department/EPA pursuant to this permit shall be sent to the following addresses: **(This condition was taken from Permit: AQM-003/00058-Renewal 3)**

State of Delaware – DNREC Division of Air Quality State Street Commons 100 W. Water Street, Suite 6A Dover, DE 19904 ATTN: Division Director	United States Environmental Protection Agency Associate Director of Enforcement (3AP12) 1650 Arch Street Philadelphia, PA 19103
No. of Originals: <u>1</u>	No. of Copies: <u>1</u>

7. Compliance Certification

- 7.1 Compliance with the terms and conditions of this permit shall be certified to the Department not later than the first day of February of each year unless the terms and conditions require Compliance Certifications to be submitted more frequently. Such certifications shall cover the previous calendar year and shall be submitted on Form AQM-1001BB. The Compliance Certification shall include the following information: **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.1 dated 12/11/00]
- 7.1.1 The identification of each term or condition of the permit that is the basis of the certification. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.1 dated 12/11/00]
- 7.1.2 The Company's current compliance status, as shown by monitoring data and other information reasonably available to the Company. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.2 dated 12/11/00]
- 7.1.3 Such certification shall indicate whether compliance was continuous or intermittent during the covered period. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.3 dated 12/11/00]
- 7.1.4 The method(s) used for determining the compliance status of the Company, currently and over the reporting period as required by the monitoring, record keeping, and reporting required under Conditions 4, 5, and 6. **(This condition was modified from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.4 dated 12/11/00]
- 7.1.5 Such other facts that the Department may require to determine the compliance status of the source. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.5 dated 12/11/00]
- 7.2 Each compliance certification shall be submitted to the Department and EPA and shall be certified in accordance with Condition 6.7 of this permit. **(This condition was modified from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1130 Section 6.3.5.4 dated 12/11/00]
- 7.3 Any additional information possessed by the Company that demonstrates noncompliance with any applicable requirement must also be used as the basis for Compliance Certifications. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 62 FR 8314 dated 2/24/97]
- 7.4 The owner or operator of the ethylene oxide tanks that are equipped with a closed vent system and scrubber shall submit as an attachment to the notification of the date construction is commenced postmarked no later than 30 days after such date, an operating plan containing the information listed below. **(This condition will be transferred to**

Permit: AQM-003/00058-Renewal 3) [Reference 40 CFR Part 60 Subpart Kb §60.113b(c)(1)(i) and §60.113b(c)(1)(ii) dated 8/11/89, 40 CFR Part 60 Subpart A §60.7(a)(1) dated 2/12/99]

- 7.4.1 Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device.
- 7.4.2 A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).
- 7.5 A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date. The notification shall include the specific provisions of §60.662(a) and (c) and §60.702(a) with which the owner or operator has elected to comply. **(This condition will be transferred to Permit: AQM-003/00058-Renewal 3)** [Reference 40 CFR Part 60 Subpart NNN §60.665(a) dated 2/27/14, 40 CFR Part 60 Subpart RRR §60.705(a) dated 12/14/00 and 40 CFR Part 60 Subpart A §60.7(a)(3) dated 2/12/99]

8. Administrative Conditions

- 8.1 This permit supersedes **Permit: APC-2016/0068-CONSTRUCTION (Amendment 3) (NSPS) (MACT) (VOC RACT) (MNSR) (FE)** dated June 7, 2018.
- 8.2 The Company shall have available at the facility at all times a copy of this permit and shall provide a copy of this permit to the Department upon request. **(This condition was taken from Permit: AQM-003/00058-Renewal 3)** [Reference 7 DE Admin. Code 1102 Section 8.1 dated 6/1/97]
- 8.3 Failure to comply with the provisions of this permit may be grounds for suspension or revocation. [Reference 7 DE Admin. Code 1102 Section 6 dated 6/1/97]

Sincerely,

Joanna L. French, P.E.
Acting Program Administrator
Engineering & Compliance Section

ADM:JLF:ESR
F:\EngAndCompliance\ESR\esr21044.docx

pc: Dover Title V File
Eric S. Rowland
Gwendolyn Lawless, Lead SHE Advisor, Croda, Inc., 315 Cherry Lane, New Castle, DE 19720

Attachment A

Croda, Inc. – Atlas Point

Permitted Equipment

1. One ethanol dehydration furnace (B-1210 or EDF) with a heat input of 12.47 mmBtu/hr.
2. One catalytic oxidizer (U-240, catalytic combustion unit, or CCU) with a heat input of <1 mmBtu/hr to control emissions from the carbonate regenerator.
3. Two 30,000 gallon ethylene oxide (EO) storage tanks (D-1410A and D-1410B) controlled by a vent scrubber (T-330)
4. One ethyl chloride chemical addition pot.
5. Two 50,000 gallon ethanol storage tanks (F-1201 and F-1202).
6. One 464 hp, Tier 3, Cummins model 300DQDAC emergency generator.
7. Two 350 hp, Clarke model JW6H-UFADJ0 fire pumps.
8. One existing 235 hp, Peerless fire pump.

Attachment B

Croda, Inc. – Atlas Point

Submitted Documentation

1. Application submitted on Form Nos. AQM-1001, AQM-1001A, AQM-1001B, AQM-1001CC, AQM-1001D, AQM-1001K, AQM-1001N, AQM-1001V, AQM-1001W, AQM-1001X, AQM-1001Y, AQM-1, AQM-2, AQM-3.1, AQM-3.2, AQM-3.5, AQM-4.1, AQM-4.4, AQM-5, dated February 29, 2016, signed by Robert Stewart, Operations Director
2. Form AQM-1001DD, received August 13, 2015, signed by Robert Stewart, Operations Director
3. Letter dated January 17, 2014 to Kevin Coyle, signed by Robert Touhey, regarding Coastal Zone Permit Application for the 6 Autoclave process
4. Email, dated November 25, 2015, with attached process flow diagrams (confidential)
5. Email, dated December 11, 2015, with attached spreadsheets of emission calculations (confidential)
6. Email, dated January 26, 2016, regarding the mole volumes of gas (ft³/mole) at different standard temperatures
7. Email, dated January 26, 2016, which described the CO₂ generated by the upset condition and normal emissions for the catalytic oxidizer
8. Email, dated February 2, 2016, regarding the maximum organic feed that will be sent to the catalytic oxidizer at start-up that represents design conditions
9. Email, dated February 4, 2016, regarding the calculation for mole fraction of EO in the vapor balance line vented to scrubber T-330
10. Email, dated February 5, 2016, containing a spreadsheet workbook of SCREEN3 model runs
11. Email, dated February 23, 2016, providing the Exhaust Emission Compliance Statement for the Tier 3, 300 kW, 464 HP, emergency generator, all sent by Robert Touhey, P.E., Safety, Health & Environment
12. Email, dated March 14, 2016, regarding TRE calculations for the hotwell, sent by Gwendolyn Lawless, SHE Advisor
13. Email, dated March 29, 2016, adding revised Table B-10 (Ethanol Storage Tanks and Ethanol Blowdown Tank- confidential) emission calculations, sent by Robert Touhey, SHE Manager
14. Email, dated March 30, 2016, regarding proposal to monitor closed vent systems in 40 CFR Part 60 Subpart VVa as valves and connectors in gas/vapor and light liquid service, sent by Gwendolyn Lawless, SHE Advisor
15. Email, dated April 1, 2016, adding revised Table B-4 (Ethanol Dehydration Furnace- confidential) emission calculations, sent by Robert Touhey, SHE Manager

16. Meeting agenda, dated June 1, 2016 for Company comments to draft permit,
17. Email, dated June 6, 2016, from Gwendolyn Lawless, SHE Advisor
18. Letter, dated June 14, 2016, signed by Robert Touhey, SHE Manager
19. Email, dated June 27, 2016, from Gwendolyn Lawless
20. Amendment request, dated March 29, 2017, signed by Gwendolyn Lawless, Lead SHE Advisor, to direct an ethanol blowdown stream to the EDF for fuel
21. Letter, dated November 8, 2017, from Gwendolyn Lawless, Lead SHE Advisor
22. Permit extension request, dated May 11, 2018, signed by Gwendolyn Lawless, Lead SHE Advisor
23. Letter, dated May 30, 2018, signed by Gwendolyn Lawless, Lead SHE Advisor
24. Amendment request, dated December 30, 2020, signed by Gwendolyn Lawless, Lead SHE Advisor
25. Letter, dated April 9, 2021, signed by Gwendolyn Lawless, Lead SHE Advisor
26. Email, dated May 13, 2021, from Gwendolyn Lawless, Lead SHE Advisor